

Remarks/Arguments

Rejection of Claims 1-14 under 35 U.S.C. 112, First Paragraph

The Examiner rejected Claims 1-14 under 35 U.S.C. 112, first paragraph as failing to comply with the written description requirement. Specifically, the Examiner asserted that the originally filed specification, drawings, and claims failed to show an illuminated source fully enclosed by a heat sink assembly. Applicants traverse the rejection as follows. Claims 2-14 depend from independent Claim 1, therefore, Applicants focus their arguments on Claim 1.

The Examiner's rejection fails to address all the applicable limitations of Claim 1

As amended in the reply of October 31, 2005, Claim 1 recites: "a heat sink assembly; a lens secured to said heat sink assembly, where said heat sink assembly *and said lens* fully enclose said illumination source..." (emphasis added). That is, Claim 1 clearly recites the illumination source being enclosed by the combination of the heat sink assembly and the lens. However, in the above rejection, the Examiner has focused solely on the heat sink assembly and has failed to appreciate the limitation regarding the lens. Thus, it is irrelevant as to whether the originally filed specification, drawings, and claims failed to show an illuminated source fully enclosed by a heat sink assembly, since Claim 1 does not recite an illuminated source fully enclosed by a heat sink assembly.

The Examiner has referred to Figures 10 and 11 as illustrating the limitations in Claim 1 and has based his examination on these figures. However, these figures only show the heat sink and do not show the lens recited in Claim 1. That is, these Figures alone do not form an adequate basis for evaluating Claim 1. In the October 31 reply, Applicants amended Claim 1 to recite the lens and the heat sink assembly/lens combination enclosing the illumination source. To support the amendment, Applicants referred to Figure 7a, which shows lens 18 enclosing the circular opening at the top of heat sink 28. The illumination source (bulb 50) extends into the chamber of the heat sink through opening 84. Therefore, bulb 50 is fully enclosed by the chamber of the heat sink and the lens. Figure 6 also shows the preceding arrangement. Thus, the

original specification and claims fully support Claim 1 as amended in the October 31 reply and no new matter was added in the reply.

The original specification and drawings, for example, Figures 6 and 7a, support the Claim 1 recitation of an illumination source being enclosed by a heat sink assembly and a lens. Therefore, Claim 1 complies with 35 U.S.C. 112, first paragraph. Claims 2-14, dependent from Claim 1, also comply with 35 U.S.C. 112, first paragraph. Applicants courteously request that the rejection be removed.

Rejection of Claims 1-3 under 35 U.S.C. §103(a)

The Examiner rejected Claims 1-3 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,295,052 (Chin). Applicants respectfully traverse the rejection.

Claim 1 recites: “a heat sink assembly; a lens secured to said heat sink assembly, where *said heat sink assembly and said lens fully enclose said illumination source*,” (emphasis added). In the Response to Arguments, the Examiner dismissed Applicants’ arguments, in the October 31 reply, that Chin fails to teach or suggest a fully enclosed illumination source. The Examiner based this assertion on the above rejection of Claim 1 under 35 U.S.C. 112, first paragraph. Specifically, the Examiner stated that Chin teaches the Claim 1 limitations “to the extent that “fully enclosed” is shown in the drawings of the current application as stated above.” Applicants assume that the Examiner is referring to Figures 10 and 11.

Applicants have shown *supra* that the rejection under 35 U.S.C. 112, first paragraph failed to address all the relevant limitations of Claim 1, that Claim 1 is fully supported by the original application, and that Figures 6 and 7a, not Figures 10 and 11, are the appropriate figures for use in supporting and evaluating Claim 1. Therefore, Applicants’ arguments regarding Chin in the October 31 reply are valid and must be considered.

Chin does not teach or suggest fully enclosing an illumination source

Claim 1 recites: “a heat sink assembly; a lens secured to said heat sink assembly, where *said heat sink assembly and said lens fully enclose said illumination source*,” In contrast, Chin teaches an illumination source that is cradled or supported by separate, unconnected heat sink

blocks: "Shown through the aperture 28 is a lamp assembly 80 comprising a 300W Xenon lamp 34 supported by heat sinks having the form of mounting plates with fins providing heat sinking to an airflow passing therethrough as described below. The heat sinks, as further shown in FIG. 4 showing a representative heat sink 38, have a slot 42 cut from a front edge 44 through an aperture 46 for the lamp 34 to a position proximate to a back edge 48." (col. 2, lines 54-62). The heat sinks do not fully enclose the lamp assembly or the lamp. This is also shown in Figures 1 and 5 of Chin. Figure 1 is a front view of Chin's apparatus. Portions of lamp 34 are clearly shown as being "in the open" with respect to the heat sinks. Specifically, the leader line for reference designator 34 points directly to one such portion. Other such portions of lamp 34 are visible/exposed between the fins of heat sinks 36 and 38. Figure 5 is a perspective view and shows that lamp 34 is clearly exposed, that is, is unenclosed by heat sink 36. Chin does not suggest or motivate fully enclosing lamp 34 either.

There is no suggestion or motivation, in Chin or in the knowledge generally available to one of ordinary skill in the art, to modify the reference

Chin does not contain any suggestion or motivation to modify his apparatus to fully enclose the bulb. Chin states that his arrangement operates satisfactorily. Modifying Chin to fully enclose the bulb would require a significant modification of his design and would greatly increase the cost and complexity of his apparatus.

For all the reasons noted above, Chin fails to establish a *prima facie* case of obviousness with respect to Claim 1. Therefore, Claim 1 is patentable over Chin. Claims 2 and 3, dependent from Claim 1, enjoy the same distinction from Chin. Applicants courteously request that the rejection be removed.

Rejection of Claims 4-12, 14-24, 26-34, 36-43, and 46-50 under 35 U.S.C. §103(a)

The Examiner rejected Claims 4-12, 14-24, 26-34, 36-43, and 46-50 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,295,052 (Chin) in view of U.S. Patent No. 5,076,660 (Messinger). Applicants respectfully traverse the rejection.

Claim 1

Applicants have shown that Claim 1 is patentable over Chin. Messenger does not cure the defects of Chin with respect to Claim 1. Specifically, Messenger fails to teach a heat sink assembly and lens fully enclosing an illumination source. Therefore, Claim 1 is patentable over Chin in view of Messenger. Claims 4-12 and 14, dependent from Claim 1, enjoy the same distinction from the cited prior art. Note also that the arguments *infra* regarding Claim 15 are applicable to Claim 4 and Claims 5-12 and 14, dependent from Claim 4. Applicants courteously request that the rejection be removed.

Claim 15

Amended Claim 15 recites: “a fixed baffle assembly located proximate said air inlet and operatively arranged to divert air entering said microscope via said inlet and to occlude the emanation of light from said microscope through said air inlet.”

Messenger is not analogous to the present invention

Messenger is teaching a light source for fiberoptic illumination. Fiberoptic illumination is not analogous to the microscope recited in Claim 15.

Messenger's baffles do not occlude light the inlet

In the Response to Arguments, the Examiner asserted that the structures shown to the right of lamp 1 in Fig. 1 (hereafter referred to as partitions) and baffles 19 occlude the emanation of light from inlet 9. However, it is clear that significant amounts of light pass through the partitions and baffles to enter the passageway to inlet 9 (beginning on the right hand side of the partitions in Figure 1). The occlusion of light from inlet 9 is a result of the configuration of the passage between the partitions and the inlet and the changes in direction for a light beam dictated by this configuration. For example, light streaming past the partitions and baffles must make three 90 degree turns in the passageway in order to exit through inlet 9. Thus, it is the passageway, not the partitions and baffles that occludes light from inlet 9. Alternately stated, if inlet 9 were placed directly to the right of the partitions, that is, light was not required to traverse the passageway, the partitions and baffles 19 would not occlude light from reaching inlet 9 and emanating from inlet 9.

Messinger's partitions and baffles are not proximate the inlet

Claim 15 recites: "a fixed baffle assembly located *proximate* said air inlet..." (emphasis added). The plain meaning of proximate is given by The Merriam-Webster Dictionary as "very near." However, some consideration can be given to the context in which the term is used. The baffle assembly recited in Claim 15 is disposed directly on top of the air inlet as shown in Figures 5 through 7b of the present application. In contrast, Messinger's partitions and baffles are no where near inlet 9. In fact, within the context of Messinger's receptacle, the partitions and baffles are nearly as far from the inlet as is possible. Further, Messinger necessarily must separate the partitions and baffles from the inlet to the greatest degree possible, since the degree of this separation is directly related to the efficiency of the passageway in occluding light. That is, the further the partitions and baffles are from the inlet (the longer the passageway), the more effectively the passageway occludes light. Messinger has located the partitions and baffles so far from the inlet as to teach against placing a baffle proximate an air inlet.

Chin in view of Messinger fails to teach, suggest, or motivate a baffle assembly proximate an air inlet and arranged to occlude the emanation of light through the air inlet, as recited in Claim 15. Therefore, Claim 15 is patentable over Chin in view of Messinger. Claims 16-24 and 26-29, dependent from Claim 15, enjoy the same distinction from the cited references. Applicants courteously request that the rejection be removed.

Claim 30

Amended Claim 30 recites: "a fixed baffle located proximate an air inlet of said microscope and operatively arranged to deflect air that enters said microscope via said inlet, wherein said microscope further comprises an illumination source and said baffle occludes the emanation of light from said illumination source through said inlet;" These are substantially the same elements noted above for Claim 15. Applicants have shown that Claim 15 is patentable over Chin in view of Messinger. Therefore, Claim 30 also is patentable over Chin in view of Messinger. Claims 31-34, 36-43, and 46-50, dependent from Claim 30, enjoy the same distinction from the cited references. Applicants courteously request that the rejection be removed.

Rejection of Claims 13, 25, 44, and 45 under 35 U.S.C. §103(a)

The Examiner rejected Claims 13, 25, 44, and 45 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,295,052 (Chin) in view of U.S. Patent No. 5,076,660 (Messinger) as applied to Claims 5, 17, and 36, and further in view of U.S. Patent No. 6,698,200 (Rauen). Applicants respectfully traverse the rejection.

Applicants have shown that Claims 1, 15, and 30 are patentable over Chin in view of Messinger. Rauen teaches a thermodynamic engine and fails to cure the defects of Chin and Messinger with respect to Claims 1, 15, and 30. Therefore, Claim 13, Claim 25, and Claims 44 and 45, dependent from Claims 1, 15, and 30, respectively, enjoy the same distinction with respect to the cited references.

Applicants courteously request that the rejection be removed.

Conclusion

Applicant respectfully submits that all pending claims are now in condition for allowance, which action is courteously requested.

Respectfully submitted,



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